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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brenner

Art Unit: 2814

Serial No.: 10/038,813

Examiner: Trinh, Hoa B.

Filed: 31 December 2001

Docket No. TI-30637

For: SEPARATING WAFERS COATED WITH PLASTIC FILMS

## CERTIFICATION OF FACSIMILE TRANSMISSION

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## FACSIMILE COVER SHEET

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<input type="checkbox"/> CONTINUATION APP'N (# Pages)	<input type="checkbox"/> ISSUE FEE (# Pages)
<input type="checkbox"/> DIVISIONAL APP'N	<input checked="" type="checkbox"/> APPEAL TRANSMITTAL
NAME OF INVENTOR(S): Brenner	
RECEIPT DATE & SERIAL NO.: Application No.: 10/038,813 Filing Date: 12/31/2001	
TITLE OF INVENTION: SEPARATING WAFERS COATED WITH PLASTIC FILMS	
TI FILE NO.: TI-30637	DEPOSIT ACCT. NO.: 20-0668
FAXED: 11/02/2005 DUE: 11/04/2005 ATTY/SECY: CAB:ss	

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Texas Instruments Incorporated  
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

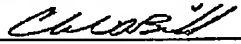
Applicant: Brenner  
Serial No.: 10/038,813  
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For: SEPARATING WAFERS COATED WITH PLASTIC FILMS

Art Unit: 2814  
Examiner: Trinh, Hoa B.  
Docket No.: TI-30637

## APPEAL BRIEF TRANSMITTAL

2 November 2005

Mail Stop Appeal Brief-Patents  
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	<u>2 Nov 2005</u>
Charles A. Brill	Date

Sir:

Transmitted herewith is an Amended Appeal Brief in the above-identified application. The Amended Appeal Brief is filed in response to the Notification of Non-Compliant Appeal Brief mailed 4 October 2005, and includes an Evidence Appendix and a Related Proceedings Appendix.

As the \$500.00 fee for filing an Appeal Brief has already been paid, it is believed no additional fees are due as a result of this communication. Nevertheless, please charge any necessary fees, including any extension of time fees, or credit overpayment to the deposit account of Texas Instruments Incorporated, Deposit Account No. 20-0668.

Respectfully submitted,



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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Brenner

Art Unit: 2814

Serial No.: 10/038,813

**RECEIVED**  
CENTRAL FAX CENTER Examiner: Trinh, Hoa B.

Filed: 31 December 2001

**NOV 02 2005**


Docket No.: TI-30637

For: SEPARATING WAFERS COATED WITH PLASTIC FILMS

**AMENDED APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

2 November 2005

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	2 Nov. 2005
Charles A. Brill	Date

Dear Sir:

The following Amended Appeal Brief is respectfully submitted in connection with the above-identified application in response to the Notification of Non-Compliant Appeal Brief mailed 4 October 2005, the Final Rejection mailed 7 January 2005, and the Advisory Action mailed 2 May 2005. Please charge all required fees, including any extension of time fees, to the deposit account of Texas Instruments Incorporated, Deposit Account No. 20-0668.

**REAL PARTY IN INTEREST**

The real party in interest is Texas Instruments Incorporated, to whom this application is assigned.

TI-30637 Appeal Brief - Page 1 of 15

## **RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to the Applicant's legal representative.

## **STATUS OF THE CLAIMS**

This application was filed on 31 December 2001 with twenty three claims, one of which was written in independent form. No claims have been amended or added. All claims, Claims 1-23, have been rejected and are under appeal.

## **STATUS OF THE AMENDMENTS**

A response to the final rejection was submitted on 14 April 2005. The response after final rejection did not amend any claims, and the Examiner indicated it would be entered for purposes of appeal.

## **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention provides a useful process that enables devices, such as micromirror arrays and other micro-electro-mechanical systems, to be tested prior to wafer separation and packaging. In the case of micromirror arrays, the package and optical window are very expensive. Therefore, the ability to test the micromirror arrays in wafer form and package only the known good die is extremely important. To enable the device to be tested, the sacrificial layers supporting the mirror array during fabrication are removed. The mirrors are then prone to damage from debris or other contact and must be protected during the wafer separation and packaging steps.

The micromechanical device is protected during the wafer separation process by a protective layer. The protective layer is difficult to establish and remove without damage to the fragile micromechanical components. The protective overcoat is described on page

9 of the specification. In general, the materials that are suitable for protective overcoat layers are easily sawn when the wafer is sawn. Unfortunately, as described in lines 4-12 of page 10, the overcoat layers tend to be slightly plastic. This leads to deformation and delamination during the saw process and damage to the underlying micromechanical elements. The present invention teaches the use of a brittle layer over the protective layer to prevent damage from the deformation and delamination of the protective layer. The combination of a protective layer and a brittle layer allows the use of a protective layer that is selected for its ability to both encapsulate the micromechanical devices and be removed without damage to the devices. The brittle layer material may then be selected for its ability to prevent deformation and delamination damage without regard for its ability to be applied to an unprotected device.

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether Claims 1-14 and 20-22 are anticipated under 35 U.S.C. § 102 (e) by U.S. Patent No. 6,335,224 B1 to Peterson *et al.* ("Peterson").

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